

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017350**Date Inspected:** 05-Oct-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1100**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** Steve McConnell**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Section**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above.

This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and to monitor American Bridge/Fluor (ABF) welding operations.

The following observations were made:

1) At weld joints E6/E7 – A1, outside the OBG section: ABF welding personnel Danny Ieraci (#3232) and Kenneth Chappell (#3833) started the excavation of two transverse Ultrasonic Testing (UT) indications. QC Inspector Steve McConnell and QCM Jim Bowers were present and monitoring the work. Please see below for details.

2) At weld joints E7/E8 – B, outside the OBG section: ABF welding personnel Hua Qiang Hwang (#2930) was performing Shielded Metal Arc Welding (SMAW) with copper backing material. QC Inspector John Pagliero was present and monitoring the work.

3) At weld joints E7/E8 – F, outside the OBG section: ABF welding personnel Xiao Jian Wan (#9677) was performing SMAW with copper backing material. QC Inspector John Pagliero was present and monitoring the work.

4) At OBG section E1, Access Plate L1E-S: ABF welding personnel Darcel Jackson (#9967) was performing repair welding using the SMAW process. QC Inspector Pat Swain was present and monitoring the work.

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At weld joints E6/E7 – A1, outside the OBG section this QA Inspector was informed by QCM Jim Bowers the two transverse UT indications discovered and marked by QC personnel the previous day would be excavated to determine the type and extent of the repair. This QA Inspector observed as ABF welding personnel Danny Ieraci (#3232) and Kenneth Chappell (#3833) started the excavation of two transverse indications using a power grinder with a grinding disk and rounded burring tool. QC Inspector Steve McConnell was also present and monitoring the work. The work started at the indication located 510 mm from “B” weld and as the weld was excavated welding personnel Kenneth Chappell (#3833) would stop periodically and QC Inspector Steve McConnell would check the depth of the excavation and visually examine the area. The depth of the UT indication marked adjacent to the area was 13 mm with a length of 50 mm. At an excavation depth of 17 mm QC Inspector Steve McConnell performed and accepted a visual inspection and Magnetic Particle Testing (MT) of the excavation area. This QA Inspector performed a visual verification of the excavation which had a length of 85 mm, width of 28 mm and depth of 17 mm. Please note this was the second excavation of a repair at this location, the final excavation appeared to have a length of 65 mm within the original weld area but it was difficult to determine the exact width of the weld at this location due to the previous repair and grinding. The second indication located at 575 mm from weld “B” was excavated the same way, stopping periodically for QC Inspector Steve McConnell to check the depth and perform a visual inspection. The depth of the UT indication marked adjacent to this area was 15 mm with a length of 20 mm. At an excavation depth of approximately 15 mm QC Inspector Steve McConnell performed MT and observed a linear indication. The excavation continued stopping periodically for QC Inspector Steve McConnell to perform MT inspections. At an excavation depth of 21 mm the MT indication was longer and more pronounced than what it was previously. With the excavation at this depth an indication which appeared to be the fusion line between the backing bar and base material was visible. QCM Jim Bowers elected to stop further excavation at this time stating he would put together a repair procedure and submit it for approval prior to proceeding. The excavation at this time had a length of 70 mm, width of 29 mm and was 21 mm deep. Please see photos below.

At weld joints E7/E8 – B, outside the OBG section this QA Inspector observed ABF welding personnel Hua Qiang Hwang (#2930) performing SMAW using a copper bar for backing material. QC Inspector John Pagilero was present and monitoring the work. This QA Inspector performed a verification of the welding parameters observing the following: 133 amperes using a 3.2 mm diameter E7018H4R electrode. The parameters were within the range specified on ABF-WPS-D15-1040B.

At weld joints E7/E8 – F, outside the OBG section this QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) was using the SMAW process to tack weld fitting aids (dogs) to the E8 side of the weld joint. There appeared to several areas of plainer misalignment in the weld joint which also caused a gap between the copper backing and the base material. QC Inspector John Pagliero was present and monitoring the work. Later in the shift this QA Inspector observed the fit up had been brought into tolerance except for a short length at the top of the weld joint which was 3 mm out of alignment. ABF welding personnel Xiao Jian Wan (#9677) had proceeded with welding the root pass on the lower section of the joint which was within tolerance and was working on fitting the top section at the end of this QA Inspector’s shift. A turnover of the event and status of the work was provided to QA Inspectors Rick Bettencourt and Jojo Lizardo.

At OBG section E1, Access Plate L1E-S this QA Inspector observed ABF welding personnel Darcel Jackson (#9967) starting to perform repair welding. This QA Inspector observed 12 UT indications for repair and was

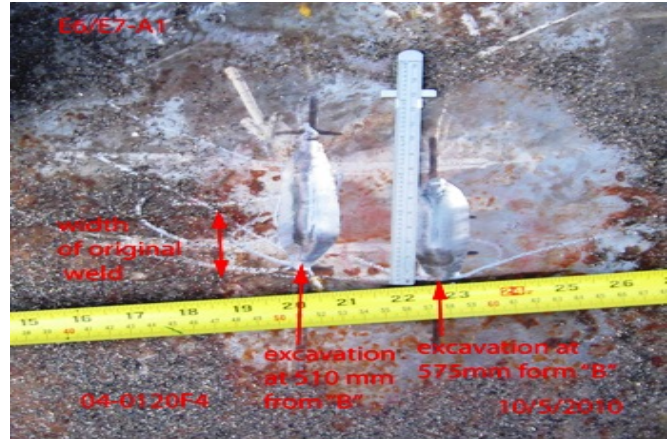
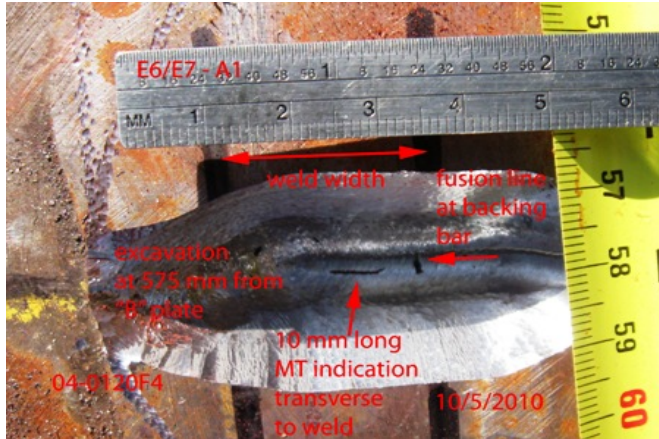
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informed by ABF welding personnel Darcel Jackson (#9967) two of the UT indications had been incorporated into one excavation. This QA Inspector randomly observed as QC Inspector Pat Swain verified the preheat of the base material was greater than 150° F and verification of the following welding parameters; 118 amperes using a 3.2 mm diameter E7018H4R electrode. The work observed appeared to comply with ABF-WPS-D15-1001 Repair.

Summary of Conversations:

As noted above.



Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

Inspected By: Hager,Craig

Quality Assurance Inspector

Reviewed By: Levell,Bill

QA Reviewer